

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all other previous listings or versions of the claims in this application:

1. (currently amended) A method of deinking printed paper, the method comprising pulping the paper to form an aqueous slurry, adding a deinking additive to the paper, and removing detached ink by flotation, wherein the additive comprises an organo-modified siloxane having a molecular weight in the range of about 10,000 to about 100,000 comprising units of the formula:



in which each R^1 is independently selected from the group consisting of a hydrogen atom, an alkyl, aryl, alkenyl, aralkyl, alkaryl, alkoxy, alkanoyloxy, hydroxyl, ester or ether group;

each Z is independently selected from the group ~~consisting of (i) an alkyl group substituted with a substituent selected from the group consisting of an amine, amide, carboxyl, ester, or epoxy group, and (ii) a group~~ $-R^2-(OC_pH_{2p})_q(OC_rH_{2r})_s-R^3$;

n is an integer greater than 1;

a and b are independently selected from the group consisting of 0, 1, 2 and 3;

R^2 is selected from the group consisting of an alkylene group and a direct bond;

R^3 is selected from the group consisting of R^1 and Z as defined above;

p and r are each independently an integer from 1 to 6; and

q and s are independently selected from the group consisting of 0 and an integer such that $1 \leq q + s \leq 400$;

and wherein 2 to 20 mole percent of the silicon atoms in each molecule of the organo-modified siloxane molecule are substituted by contains at least one group Z.

2. (cancelled).

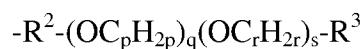
3. (currently amended) A method according to claim 1 claim 2 wherein p is an integer from 2 to 4 inclusive.

4. (currently amended) A method according to claim 1 ~~claim 2~~ wherein q and s are each independently integers from 10 to 30.
5. (previously presented) A method according to claim 4 wherein q and s are each independently integers from 15 to 25.
6. (currently amended) A method according to claim 1 ~~claim 2~~ wherein p is 2, r is 3, and q and s are both 18.
7. (previously presented) A method according to claim 1 wherein R^2 is selected from the group consisting of a methylene, ethylene, propylene, butylene, pentylene and hexylene group.
8. (previously presented) A method according to claim 1 wherein R^3 is selected from the group consisting of a hydrogen atom and a hydroxyl group.
9. (previously presented) A method according to claim 1 wherein the siloxane is linear.
10. (previously presented) A method according to claim 1 wherein the siloxane contains branching.
11. (currently amended) A method according to claim 1 wherein Z is a group $-R^2-(OC_pH_{2p})_q(OC_rH_{2r})_sR^3$, and R^3 is selected from the group consisting of a hydroxyl or alkanoyloxy group.
12. (cancelled).
13. (currently amended) A method according to claim 1 ~~claim 2~~ wherein 5 to 16 mole percent of silicon atoms in the siloxane molecule are substituted by a group Z.

14. (previously presented) A method according to claim 1 wherein the siloxane has a hydrophilic/lipophilic balance (HLB) in the range of about 5.0 to about 7.3.

15-16. (cancelled).

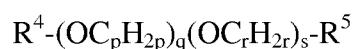
17. (previously presented) A method according to claim 1 wherein the siloxane is a hydroxy-endcapped linear polydimethylsiloxane having an HLB of about 5.9 to about 6.3, in which 10 to 12 mole percent of silicon atoms are substituted by Z groups of the formula



in which p is 2, r is 3 and q and s are both 18, R² is selected from the group consisting of an alkylene group having from 1 to 6 carbon atoms and a direct bond, and R³ is selected from the group consisting of a hydrogen atom, a hydroxyl, ester and ether group.

18. (previously presented) A method according to claim 1 wherein the additive further comprises one or more components selected from the group consisting of a polydimethylsiloxane, an organic polyether, and a fatty acid.

19. (previously presented) A method according to claim 18 wherein the additive further comprises an organic polyether of the formula



in which R⁴ and R⁵ are selected from the group consisting of a hydrogen atom, hydroxyl, alkyl and alkoxy groups, p and r are independently an integer from 1 to 6, and q and s are independently selected from the group consisting of 0 and an integer such that 1 ≤ q + s ≤ 400.

20. (previously presented) A method according to claim 18 wherein the additive further comprises a fatty acid selected from the group consisting of a saturated and unsaturated monobasic aliphatic carboxylic acid.

21. (previously presented) A method according to claim 20 wherein the carboxylic acid is selected from the group consisting of lauric, myristic, palmitic, stearic, arachidic, behenic, lignoceric, palmitolic, oleic, linoleic, linolenic, and arachidonic acids.

22. (previously presented) A method according to claim 1 wherein the additive is an emulsion.

23. (original) A method according to claim 22 wherein the additive is a gum based self-emulsifying siloxane.

24. (previously presented) A method according to claim 1 wherein the additive is added to the paper in an amount within the range 0.1 to 1 wt% of the paper.

25. (original) A method according to claim 24 wherein the additive is added to the paper in an amount within the range 0.1 to 0.5 wt% of the paper.

26. (previously presented) A method according to claim 1 which is performed at substantially neutral pH.

27. (previously presented) A method according to claim 1 wherein the additive is added to the paper at a stage selected from the group consisting of before, during and after pulping.

28. (currently amended) A method according to claim 1 ~~claim 2~~ wherein r is an integer from 2 to 4 ~~inclusive~~.

29. (currently amended) A method according to claim 1 ~~claim 2~~ wherein both p and r are each independently an integer from 2 to 4 ~~inclusive~~.